

## A Checklist of the Hippoboscidae of Panama (Diptera)

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The Hippoboscidae (louse flies) of the New World have been exhaustively treated by Dr. Joseph C. Bequaert in a series of papers culminating in his Monograph of the family (1953, 1954, 1955, 1957), which appeared in parts in the *Entomologica Americana*. Twenty-one species representing nine genera are recorded from Panama in this work. Our collecting of these insects has been incidental to other work, and only eight species have been secured. One of these appears to be a new record for Panama.

The Hippoboscidae are obligate, blood-sucking ectoparasites of birds and mammals. The wings of most species are fully developed. In some genera and species, the wings are deciduous, reduced, or absent. The larvae undergo their complete growth and development within the body of the female. Except in *Melophagus*, fully grown larvae are deposited away from the host (e.g., in the nest) or dropped on the ground. They then form a hard, seed-like puparium. Some species of Hippoboscidae are the invertebrate hosts of a number of blood parasites of vertebrates. The best known of these parasites are species of the genus *Haemoproteus*, which cause malaria-like diseases in birds.

All but two species of the Panamanian Hippoboscidae are parasites of birds. Most of the species are only moderately host specific and generally parasitize hosts of several related species, genera or families. A few are limited to a single host species. The species known from Panama, together with their recorded hosts and their range within the country, are listed below. References are limited to Bequaert's monograph, where a full discussion, descriptions, illustrations, and keys may be found.

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Subfamily **Ornithoicinae****Ornithoica vicina** (Walker)

Bequaert (1954: 90, 574) lists it from *Crypturellus*, *Ramphastos*, and *Myiodynastes*, all from Chiriquí Province. It parasitizes a wide variety of hosts and occurs from Canada to Chile.

**Ornithoica confluenta** (Say)

Bequaert (1954: 107) did not record the species from Panama. We have taken it twice, both times from *Casmerodius albus* (Common Egret), Almirante (Bocas del Toro), 30 November 1961 and 3 February 1961, P. Galindo, collector.

Subfamily **Ornithomyiinae****Ornithoctona erythrocephala** (Leach)

Bequaert (1954: 187, 192) records specimens from seven unrelated birds from Chiriquí Province and San José Island in Panama Bay. We have taken it once from *Eurypyga helias* (Sunbittern), Río Changena (Bocas del Toro), 21 September 1961, and once from *Daptrius americanus* (Red-throated Caracara), same locality, 7 September 1961.

**Ornithoctona fusciventris** (Wiedemann)

Bequaert (1954: 210, 213) records specimens from 10 species of hosts, nine of them *Passeriformes*, all from Chiriquí Province. He believes that the true breeding hosts are Passerine birds. In a supplement, Bequaert (1957: 576) adds a number of additional host records, also all from Chiriquí Province. We have taken the species four times, twice from Río Changena (Bocas del Toro), from *Dysithamnus puncticeps* (Spot-crowned Ant Vireo) and *Thryothorus atrogularis* (Black-throated Wren); and twice from Cerro Hoya (Los Santos), from "yellow water thrush," 13 February 1962, C. O. Handley, collector, and from "wren," 14 February 1962, C. O. Handley, collector.

**Ornithoctona nitens** (Bigot)

Bequaert (1954: 227, 228; 1957: 577) records specimens from several species of Trogonidae and a house wren, all from Chiriquí Province. Bigot's types were from Panama.

**Stilbometopa ramphastonis** Ferris

Bequaert (1955: 254) records the species from *Ramphastos swainsonii* (Chestnut-mandibled Toucan) and from a dove. The type came from Chiriquí Province, and Bequaert saw other specimens from Gamboa (Canal Zone) and Tapia (Panamá). We have taken a single female, which is believed to be this species, from *Monasa morphoeus grandior* (White-fronted Nunbird), Río Changena (Bocas del Toro) 20 September 1961.

***Lynchia americana* (Leach)**

Bequaert (1955: 272, 291) records the species from *Bubo virginianus* (Great Horned Owl) from Chiriquí Province, and without host from Juan Diaz (Panamá). Bequaert believes the true hosts to be owls, hawks, and gallinaceous birds.

***Lynchia angustifrons* (van der Wulp)**

Bequaert (1955: 305, 307) records a number of specimens from hawks and toucan, from localities in and near the Canal Zone and from Chiriquí Province. We have taken a single male from *Ramphastos swainsonii* (Chestnut-mandibled Toucan), Río Changena (Bocas del Toro), 8 September 1961. Bequaert believes hawks probably are the main breeding hosts, possibly also owls and toucans.

***Lynchia wolcotti* (Swenk)**

Bequaert (1955: 311, 312) records from Chiriquí and Bocas del Toro Provinces, 3 lots, all from hawks, which appear to be the principal, if not the only, breeding hosts. We have 1 female, from *Otus guatemalae* (Vermiculated Screech Owl), Río Changena (Bocas del Toro), 21 September 1961.

***Lynchia nigra* (Perty)**

Bequaert (1955: 314, 319) lists one record, from *Buteogallus anthracinus* (Common Black Hawk) from Pacora (Panamá).

***Lynchia albipennis* (Say)**

Bequaert (1955: 330, 336) reports the species from *Cochlearius cochlearius* (Boat-billed Heron) from Puerto de Chorrera (Panamá); also from Ancón and Christóbal (Canal Zone), no host. Wading birds of the Order Ciconiiformes are the only true hosts.

***Microlynchia crypturelli* Bequaert**

Bequaert (1955: 377) described the type specimens from *Crypturellus soui* (Little Tinamou) from La Vaca (Chiriquí). The only other known records of this rare species are from Southern Brazil, also mainly from *Crypturellus*.

***Pseudolynchia canariensis* (Macquart)**

Bequaert (1955: 390, 397) saw material from Ancón (Canal Zone), and during the last war, the United States Army Signal Corps pigeons at Quarry Heights (Canal Zone) were heavily infested by this world-wide species. The only known host is the domestic pigeon, at least in the western hemisphere.

***Pseudolynchia brunnea* (Latreille)**

Bequaert (1955: 411, 414) records specimens from *Chordeiles acutipennis* (Lesser Night Hawk) from Barro Colorado Island (Canal Zone).

We have 1 male and 2 females from 'capacho,' *Caprimulgus rufus* (Rufous Nightjar), Río Changena (Bocas del Toro), 16 September 1961. Bequaert notes that this species is known almost exclusively from Caprimulgiformes.

#### **Olfersia spinifera** (Leach)

Bequaert (1957: 429, 430) notes specimens from Panama and Taboguilla Island in Panama Bay, no host. It is a specific parasite of frigate birds (*Fregata*), and only occasionally parasitizes other marine birds.

#### **Olfersia aenescens** C. G. Thomson

Bequaert (1957: 437), gives one record from Panama from *Sterna fuscata* (Sooty Tern). The chief hosts are a variety of marine birds.

#### **Olfersia bisulcata** Macquart

Bequaert (1957: 457, 459) records a series of captures of this species, all from vultures of several species, of which it is a specific parasite. He notes it as a common species. There are specimens in the Gorgas Memorial Laboratory collection from turkey buzzard collected by L. H. Dunn. Recorded localities suggest the species is well distributed in Panama.

#### **Olfersia fossulata** Macquart

Bequaert (1957: 464, 465) gives a single record for the Canal Zone, without host. He states it to be a common parasite of marine birds.

#### **Olfersia sordida** Bigot

Bequaert (1957: 469, 470) lists 5 records for coastal Panama and Barro Colorado Island, the hosts being pelicans and, in one case, a cormorant. Pelicans appear to be the chief host.

#### **Olfersia coriacea** van der Wulp

Bequaert (1957: 474, 476) gives two records for this species, Juan Diaz, no host, and Upper Chagres River, from *Agriocharis ocellata* (Ocellated Turkey). This last seems to be an error, as this bird is not reported south of Guatemala. The species seems to occur only on Galliformes.

### Subfamily Melophaginae

#### **Lipoptena (Lipoptenella) mazamae** Rondani

Bequaert (1957: 499, 501) refers to earlier records and adds Panama City, no host. Dunn (1934) took specimens from *Mazama* at Camp Pital (Chiriquí), and we have taken it several times from *Mazama*, Río Chucunague (Darién), 18 February 1958, P. Galindo, collector; from *Odocoileus*, Cerro Hoya (Los Santos), 9 February 1962, C. O. Handley, collector; from *Mazama americana* (Red Brocket), upper Río Mono, Río Tuirá Basin (Darién), 25 and 27 June 1962, A. Adames, collector; and from *Odocoileus virginianus* (White-tailed Deer), Los Santos Province, 20 February 1962, V. J. Tipton, collector. It is a specific parasite of deer.

**Melophagus ovinus** (Linnaeus)

Bequaert (1957: 507, 516) reports one record for Panama, but the species does not thrive in the moist tropics. It is a specific parasite of domestic sheep and is world-wide in distribution.

## References

BEQUAERT, J.

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